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Ontario Energy Board



IN THE MATTER OF THE
ONTARIO ENERGY BOARD ACT

AND

IN THE MATTER OF AN APPLICATION BY

UNION GAS LIMITED

FOR LEAVE TO CONSTRUCT A NATURAL GAS PIPELINE
IN THE TOWNSHIP OF BLANDFORD-BLENHEIM, IN THE
COUNTY OF OXFORD; AND IN THE TOWNSHIPS OF
NORTH DUMFRIES, WILMOT AND WOOLWICH, AND IN
THE CITY OF WATERLOO, ALL IN THE REGIONAL
MUNICIPALITY OF WATERLOO

E.B.L.O. 237

DECISION WITH REASONS

Ontario Energy Board



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MUNICIPALITY OF WATERLOO

E.B.L.O. 237

DECISION WITH REASONS



E.B.L.O. 237

IN THE MATTER OF The Ontario Energy Board Act,
R.S.O. 1980, Chapter 332, and in particular Sections 46
and 48 thereof;

AND IN THE MATTER OF an Application by Union
Gas Limited for leave to construct a natural gas pipeline
and ancillary facilities in the Township of Blandford-
Blenheim, in the County of Oxford; and in the
Townships of North Dumfries, Wilmot and Woolwich,
and in the City of Waterloo, all in the Regional
Municipality of Waterloo.

BEFORE: R.M.R. Higgin
Presiding Member


V.W. Bielski, Q.C.
Member

J.C. Allan
Member

DECISION WITH REASONS

February 15, 1991

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1. INTRODUCTION

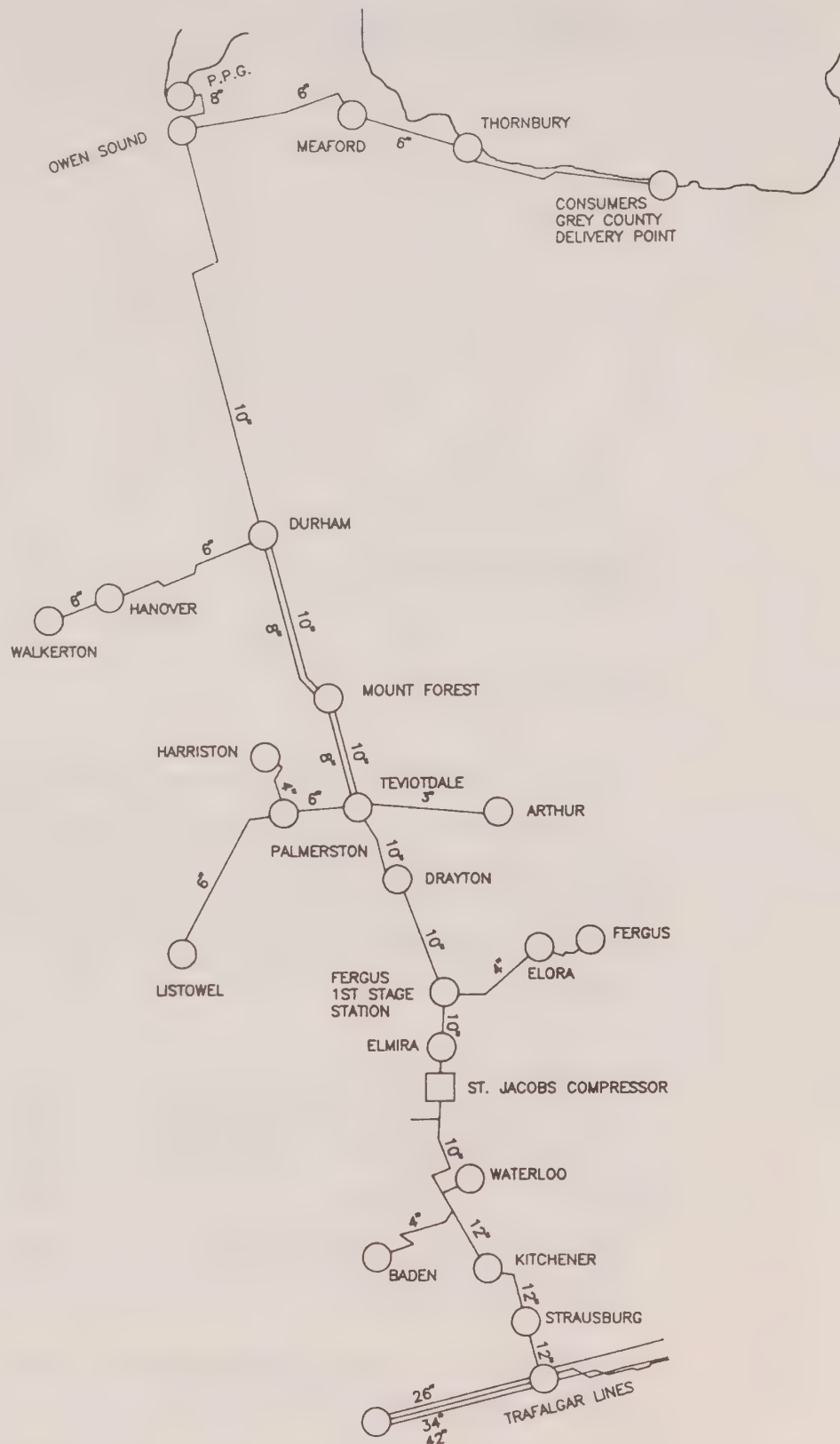
1.1 BACKGROUND

1.1.1 Union Gas Limited ("Union", "the Company" or "the Applicant"), as part of its transmission and distribution service, owns and operates the Owen Sound Line system. This system provides natural gas service to approximately 78,000 residential, commercial and industrial customers through two pipelines, the Owen Sound Line and the East Owen Sound Line (Figure 1).

1.1.2 The existing Owen Sound Line connects to the Dawn-Trafalgar System, extends northerly 153 kms to the City of Owen Sound. It then connects with the NPS 6 East Owen Sound Line which runs easterly 57.3 kms from the City of Owen Sound to the Town of Collingwood, where it interconnects with the distribution system of the Consumers' Gas Company ("Consumers' Gas") at the Grey County Exchange Point.

1.1.3 Union began to construct the Owen Sound Line in 1957 to meet the needs of the Kitchener-Waterloo area. The southerly portion is an 18.9 km nominal pipe size ("NPS") 12 pipeline extending from the Dawn-Trafalgar system to the City of Waterloo. It then continues as a NPS 10 pipeline for 11.3 km from the City of Waterloo to the St. Jacobs Compressor Station and for 38.3 km from the St. Jacobs Compressor Station to the Teviotdale

FIGURE 1



Union Gas

CHATHAM

ONTARIO

EXISTING OWEN SOUND LINE SYSTEM

Transmission Station. This station is then connected to the Durham Gate station by two parallel pipelines, 39.9 km of NPS 8 and NPS 10 pipeline. The NPS 10 pipeline then continues for 44.7 km from the Durham Gate Station to the City of Owen Sound.

- 1.1.4 The existing Owen Sound Line as approved by the Ontario Energy Board ("the Board") was constructed originally in a rural area outside the then city boundaries of Kitchener and Waterloo. In 1974, due to expansion of the Kitchener-Waterloo urban area and the increasing risk of third party damage, Union made application under Board file E.B.L.O. 168, for leave to construct an NPS 12 pipeline from the Dawn-Trafalgar system in the Township of Blenheim, in the County of Oxford, to a proposed regulating station in the Township of Woolwich, in the Regional Municipality of Waterloo. As a result of interventions by several parties to the hearing which challenged Union's route, the Board required Union to submit an alternate route. This was proposed by Union in an application under Board file E.B.L.O. 171 and was approved by the Board in 1974. The routing considered in E.B.L.O. 171 was essentially identical to the route applied for in this application. However, Union did not build the pipeline as requested and approved, but as an alternative, constructed the St. Jacobs Compressor Station.

1.2 THE APPLICATION

- 1.2.1 On September 13, 1990, Union applied to the Board for an Order pursuant to Sections 46 and 48 of the Ontario Energy Board Act ("the Act"), for leave to construct:
- (i) 33.4 kilometres of NPS 16 (406 mm) pipeline from the existing Owen Sound Valve Site located in Lot 36, Concession IX, in the Township of North Dumfries, Regional Municipality of Waterloo, northerly to the existing St. Jacobs Compressor Station located in

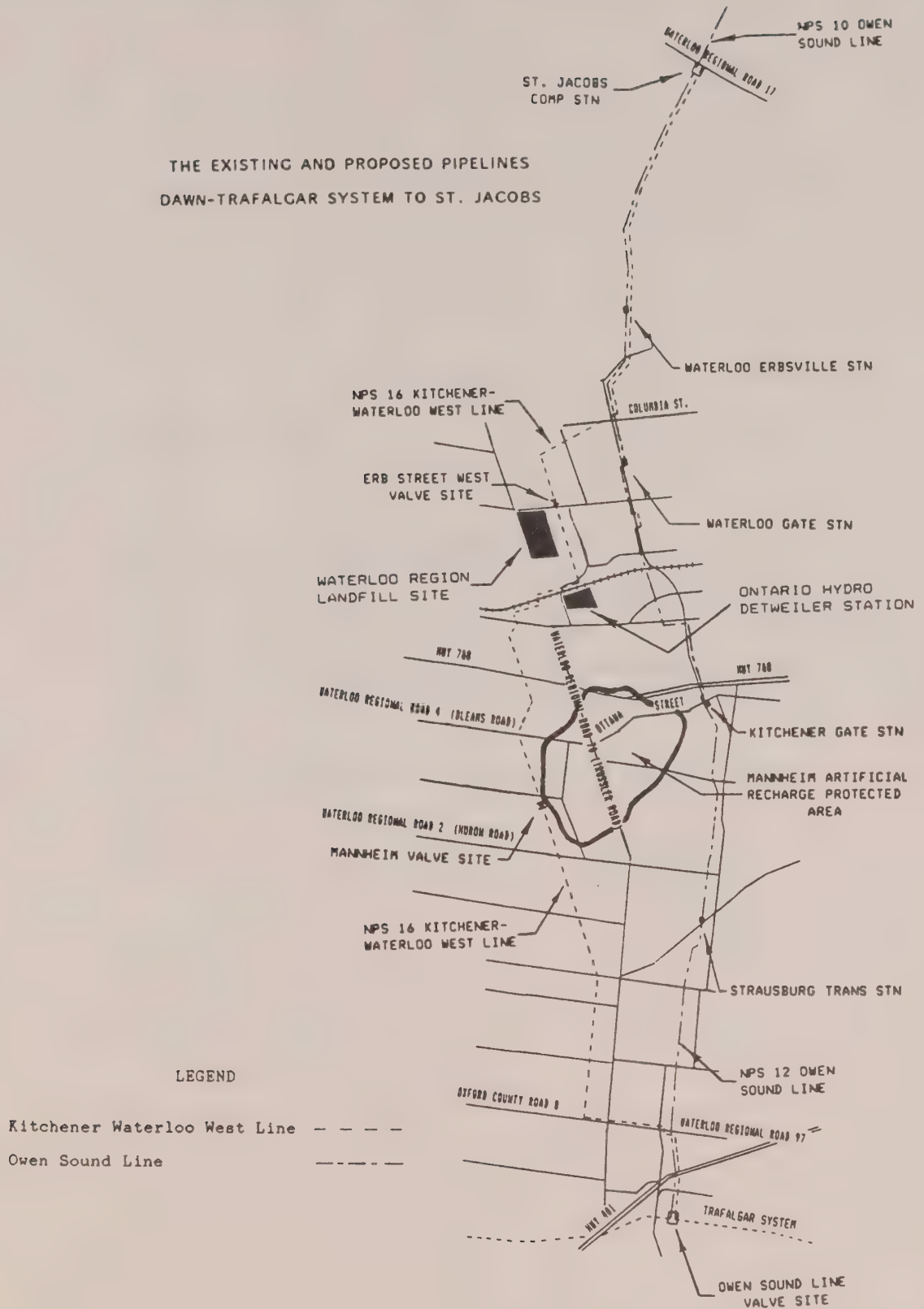
Lot 39, German Company Tract, in the Township of Woolwich,
Regional Municipality of Waterloo;

- (ii) metering and odourization facilities at the existing Owen Sound
Line Valve Site; and
- (iii) additional metering and regulating facilities at the St. Jacobs
Compressor Station,

all of which comprise "the Application" for the proposed "Kitchener-
Waterloo West Line". (Figure 2)

FIGURE 2

THE EXISTING AND PROPOSED PIPELINES
DAWN-TRAFALGAR SYSTEM TO ST. JACOBS



DECISION WITH REASONS

2. THE HEARING

2.0.1 The hearing commenced in the City of Kitchener on November 27, 1990 and continued to November 29. The remainder of the evidence and oral arguments were heard in Toronto on November 30 and December 5, 10, 13 and 14, 1990. The transcript of the proceeding and a copy of all exhibits are available for review at the Board's offices.

2.0.2 The parties to the hearing were represented as follows:

Union	D.A. Sulman L.W. Fedchun
Board Staff The Waterloo-Oxford Landowners' Committee	K.T. Rosenberg S.G. Cressman
Natural Resource Gas Limited	K. Ferguson
Consumers' Gas	T. Landanyi

The Regional Municipality
of Waterloo

G.F. Plaxton

Union called the following company witnesses:

D.J. Moore Vice-President, Region Operations

W.G. James Manager, Facilities Planning

R.E. Aiken Senior Economist

J. Van Der Woerd Manager, Marketing

D.W. Hanbidge Manager, Financial Studies

R.D. Waldon Supervisor, Land Administration

R. E. Mayer Intermediate Pipeline Engineer,
Gas Supply Engineering

R.S. Piett Project Manager, Pipeline Engineering

T.A.A. Valdja Senior Environmental Planner,
Gas Supply Engineering

K.D.R. Hockin Intermediate Transmission Planning Engineer,
Facilities Planning.

Union also called P.G. Prier, Manager, Environmental Assessment Section,
Ecological Services for Planning, Inc.

DECISION WITH REASONS

The following witnesses were called by the Waterloo-Oxford Landowners' Committee:

I. Kropf	Landowner
F. Bayus	Landowner
D. Cleave	Landowner
K. Fried	Landowner
B. Ballantyne	Landowner
B. Sararus	Landowner
R. Dedman	Landowner
W. Colber	Landowner and Chairman, Property and Personnel, Wilmot Township Council
D.J. McDonald	Landowner
S.G. Cressman	Landowner
B.C. Soehner	Approvals Supervisor, Engineering Department, Regional Municipality of Waterloo.

DECISION WITH REASONS

3. NEED FOR THE PROPOSED KITCHENER-WATERLOO WEST PIPELINE

3.1 NEED

3.1.1 Union's application for the proposed Kitchener-Waterloo West Line was based primarily on the need to improve security of supply for customers served by the existing Owen Sound Line. Union stated that although it would have applied for the Kitchener-Waterloo West Line in the future, its concerns about security of supply have resulted in the application being made sooner.

3.1.2 Union stated that the Kitchener-Waterloo area is the fastest growing area in its franchise. The existing Owen Sound Line does not have sufficient capacity to meet the forecasted market requirements under peak conditions in Fiscal 1992. The anticipated market growth in the area served by the Owen Sound Line was used to determine the size of the new pipeline.

3.2 SECURITY OF SUPPLY

3.2.1 As noted earlier, the existing Owen Sound Line serves approximately 78,000 customers, mainly in the cities of Kitchener and Waterloo. Currently, there is only a single NPS 12 transmission pipeline serving these customers, so that, according to Union, if there is a break in the

pipeline, service to all of these customers would be interrupted. For customers between St. Jacobs and Owen Sound, service is also dependent on the operation of the St. Jacobs station, a one-unit compressor station.

- 3.2.2 Union also noted that the customers served by the Owen Sound Line represent the largest group of customers on the Union system with a single pipeline feed. The next largest group in a similar situation is in Guelph, with approximately 19,500 customers.
- 3.2.3 The Applicant presented evidence that an interruption to service on the Owen Sound Line could occur in three ways: through pipeline rupture, e.g. from being struck by an auger or posthole digger, from corrosion arising from the pipeline being struck and then re-buried, or from compressor problems.
- 3.2.4 Union stated that in the event of such an incident, it anticipated that service to most of the customers on the Owen Sound Line would be interrupted. However, it would be possible to maintain service to customers east of Owen Sound, between Owen Sound and the Grey County Exchange Point with Consumers Gas.
- 3.2.5 In the event of an incident, it would be necessary to re-light the pilot lights of all of the customers whose service had been interrupted. Union estimated that this operation would take 4 to 5 days, and would require the assistance of service personnel from Consumers Gas, ICG Utilities (Ontario) and ICG Utilities (Manitoba). The cost of such an operation was estimated to be \$1,575,000. If the interruption were to occur in the winter, additional costs and damages would be incurred due to burst water pipes on customers' premises.
- 3.2.6 Interruption to industrial customers in the area would also result in losses in production and damages to equipment. Union gave as an example the problems arising if the Pittsburgh Plate Glass plant in Owen Sound had

less than two hours notice to switch to an alternate fuel. The plant could be badly damaged if the glass became frozen in the furnaces. In total, Union estimated the economic loss associated with an interruption of industrial customers on the Owen Sound Line to be \$35 to 40 million.

- 3.2.7 Union presently has an active risk management program in place in the Kitchener-Waterloo service area which is designed to minimize the risk of the line being struck. A complication in this program is that the City of Kitchener has its own distribution system and Union does not communicate directly with customers in Kitchener. Union stated that, despite its risk management program, third party construction activity on the Owen Sound Line easement continues without proper authority. Union believes that the existing Owen Sound Line easement agreement does not prevent certain forms of encroachment. Union believes that even with its risk management program, a line break is inevitable, with the greatest risk of a break in the built-up area between Bleams Road south of the Kitchener Gate station and Columbia Street, south of the Waterloo Erbsville station.
- 3.2.8 Union considered moving the existing pipeline or protecting it, but this was found to be prohibitively expensive and impractical.
- 3.2.9 There have been three instances of damage to the Owen Sound Line which have been significant enough to require new fittings. Two of these occurred north of Columbia Street, with the third between Erb Street and Columbia Street.
- 3.2.10 Union proposes to construct the Kitchener-Waterloo West Line to the St. Jacobs compressor station and to remove the St. Jacobs compressor. According to Union, this will reduce the risk of interruption in two ways:
- Compressors provide less reliable service than pipeline capacity and the St. Jacobs compressor is being relied on for increasing periods of

time to maintain service north of St. Jacobs. Replacement of the compressor with pipeline capacity will improve the reliability of service north of St. Jacobs. Union plans to move the compressor to one of its storage pools. Without the new pipeline, it would be Union's intention to add an additional compressor unit at the St. Jacobs station to provide backup to the existing unit; and

- Construction of the new pipeline will allow the existing NPS 12 pipeline to be taken out of service for inspection. This is not possible currently without disrupting service to customers on the Owen Sound Line. Inspection will allow identification of any places on the pipeline where corrosion has occurred either due to previous strikes that did not puncture the pipeline or due to other factors.

3.2.11 Union stated that the major purpose of the new Kitchener-Waterloo West Line is to reduce the consequences of a line break. After the new pipeline is built, there will be two routes for gas to take to St. Jacobs from the Owen Sound Valve Site on the Dawn-Trafalgar main line to St. Jacobs. In the event that one of these pipelines is broken, the other will be available to meet most of the gas needs of customers.

3.2.12 Union estimated that until 1994, the new Kitchener-Waterloo West Line will provide full security of supply for all customers on the Owen Sound Line in the event of a line break on either of the two lines between the Dawn-Trafalgar system and St. Jacobs. Beyond 1994, expected customer growth in the area will reduce the level of security of supply. Customers in the Kitchener area are expected to be the most exposed to interruptions, and this risk will increase as growth continues.

3.2.13 Union defined full security of supply as "no customer goes out of gas" in the event of an interruption. Union implicitly defined an "acceptable" level of security of supply, to be comparable with that of other customers on Union's system.

3.2.14 Union stated that in the event of a line break north of the St. Jacobs compressor station, there will be only partial security of supply. The new Kitchener-Waterloo West Line does not change either the risk or the consequences of a line break in this portion of the pipeline. Union's twenty-year plan for the Owen Sound Line calls for portions of this Line to be looped, in order to increase security of supply. In addition, the Grey County Exchange with Consumers Gas allows service to be maintained to customers east of Owen Sound in the event of a line break north of St. Jacobs.

3.3 POSITIONS OF THE PARTIES

3.3.1 Union submitted that the Owen Sound Line system was unique among its franchised areas. No other market of this size or customer base was served by a single line. The existing pipeline runs through highly developed areas and has been and will continue to be subject to encroachment. It was Union's position that the vulnerability of the Owen Sound Line system is unacceptable, as compared to other supply systems which Union operates, and accordingly the danger and consequences of an interruption are severe.

3.3.2 Neither the Waterloo-Oxford Landowners' Committee ("the Landowners' Committee") nor Board Staff challenged Union's assertions that a security problem exists. Board Staff recognized third party damage as an endemic problem facing all pipeline companies. Board Staff argued, however, that the security problem on the Owen Sound Line system has existed for a long time and was identified during the 1974 proceedings under E.B.L.O. 171. It suggested that Union's response to the security problem has been to focus on short-term market demand growth to the detriment of security of supply, despite having received approval from the Board in the mid-1970s to construct a line very similar to that in this Application. Union replied that its intentions to delay construction of a new line, if viable alternatives existed in the mid-1970s, were made clear to the Board during the hearings at that time.

- 3.3.3 Board Staff questioned Union's ability to determine an acceptable level of security for the Owen Sound Line system, noting Union's prefiled evidence that, if the Kitchener-Waterloo West Line was built, all customers could be served in the event of a break on the existing line until 1994. It submitted that Union's testimony in the hearing contradicted this by stating that the level of security that would be achieved with the proposed Kitchener-Waterloo West Line was unknown. Customers could be interrupted depending on a number of circumstances such as the location of the break, the magnitude of the break and the time of year. There was no evidence to establish what level of security of supply would be achieved with the proposed Kitchener-Waterloo West Line in place. Board Staff concluded that to proceed with Union's proposal might even lead to a lessening of security for some customers if the St. Jacobs compressor station were removed and there was a break on the proposed line.
- 3.3.4 In reply, Union submitted that the proposed Kitchener-Waterloo West Line will reduce the risk of an interruption to customers north of St. Jacobs because it will eliminate the risk of compressor failure and that there would be full security in the event of a break on the existing line and almost full security if there was an interruption on the proposed pipeline.
- 3.3.5 As an alternative to Union's proposal, both Board Staff and the Landowners' Committee supported the construction of a new line directly to the Kitchener Gate Station which could supply the needs of half of the customers on the Owen Sound Line system.
- 3.3.6 Union rejected the proposal for a dedicated line to the Kitchener Gate Station stating that it would provide no additional security for customers north of Kitchener and no added capacity to Waterloo or points north on the system. Such a line, Union argued, would do nothing to alleviate the risk in the areas under the greatest development pressure north of Kitchener.

- 3.3.7 Board Staff noted that the Kitchener Public Utility Commission ("the Kitchener PUC"), which supplies gas service to the residents of Kitchener, did not appear before the Board to comment on Union's Application. It argued that the City's absence reflected their satisfaction with the existing Union service. Union pointed to a letter from the City of Kitchener, filed with the Environmental Assessment, which contained a comment from the Kitchener PUC about the Application. Union testified that it had approached the Kitchener PUC to put an expression of interest before the Board. The Kitchener PUC did not do this, nor did they provide Union with an explanation for their lack of action. Union stated that if Kitchener had opposed the proposed pipeline, it would have appeared before the Board.

3.4 BOARD FINDINGS

- 3.4.1 In the Board's view, Union has established that the level of security of supply on the Owen Sound Line is below that of most of its system. It has also established that the proposed Kitchener-Waterloo West Line will increase security of supply to customers served by the Owen Sound Line.
- 3.4.2 Union has also established, in the Board's view, that the proposed Kitchener-Waterloo West Line will provide full security of supply to customers in the Waterloo to St. Jacobs area and will form the basis of improved security of supply to customers in Kitchener. However, the Board is concerned that Union did not provide evidence on its plans to maintain acceptable security of supply for its customers, particularly the City of Kitchener, beyond 1994. It is possible, for example, that a distribution lateral along Ottawa Street from the new pipeline to the Kitchener Gate station could provide the necessary security of supply. However, the Board notes that it may be difficult to find an environmentally acceptable route through the Mannheim Artificial Recharge Area, as discussed elsewhere in this Decision.

- 3.4.3 In the Board's opinion, Union did not provide specific evidence as to the vulnerability of the existing Owen Sound Line. Data were provided on line breaks in the Union system, but these data were not disaggregated, and did not distinguish between distribution system (typically small diameter plastic pipe serving neighbourhoods) and transmission system such as the Owen Sound Line. The anecdotal nature of the evidence makes it difficult for the Board to determine the risk to the Owen Sound Line and to establish the validity of Union's conclusion that a line break is inevitable.
- 3.4.4 The absence of direct comment from the Kitchener PUC, the largest single customer served by Union through the Owen Sound Line system and the supplier of natural gas to half the customers served by the Line, is of concern to the Board.
- 3.4.5 On balance, the Board finds that Union has justified the need for the Kitchener-Waterloo West Line on two grounds:
- (i) The pipeline will provide full security of supply to customers in the Waterloo to St. Jacobs area, and
 - (ii) The pipeline will provide full security of supply to Kitchener to 1994 and is a necessary facility for the maintenance of an acceptable level of security of supply to Kitchener beyond 1994.

4. ENVIRONMENTAL IMPACT OF ALTERNATIVE ROUTES FOR THE KITCHENER-WATERLOO WEST LINE

4.1 ALTERNATE ROUTES INITIALLY STUDIED BY UNION

- 4.1.1 At the outset, Union considered several alternatives to improve security of supply on the Owen Sound Line. Evaluation of these alternatives was done mainly on the basis of capital costs. Once Union determined that additional pipeline facilities were required, it hired Ecological Services for Planning ("ESP") to make recommendations for a preferred route and on mitigation measures along the proposed route.
- 4.1.2 Union imposed two constraints on the ESP study of alternative routes, i.e. the use of a 20 metre easement and the avoidance of road allowances for placement of the pipeline.
- 4.1.3 The preferred route of the proposed Kitchener-Waterloo West Line was established by the ESP study. The ESP study area was to the west of Kitchener and Waterloo, covering the southerly part of the existing pipeline route. Looping of the existing Owen Sound Line was not considered in detail in the environmental study, because of the presence of current or planned urban settlement areas and primary aggregate resources.

4.1.4 ESP identified three routes, designated Routes A, B and C, from the Dawn-Trafalgar system to St. Jacobs and compared them on the basis of 16 criteria:

- total length,
- length of new easement not adjacent to existing easements or rights of way,
- number of road crossings,
- number of stream and river crossings,
- environmentally sensitive areas,
- hazard lands,
- number of affected woodlots,
- wetlands,
- number of spawning/nursery areas,
- artificial drainage,
- primary aggregate resource areas,
- urban settlement areas,
- number of diagonally severed lots,
- specialty crops,
- prime agricultural land, and
- conservation and recreation areas.

Each of these criteria was given the same weight in the route selection process. All three of the alternative routes studied also avoided landfill sites and active aggregate extraction areas.

4.1.5 A variation of the third route, Route C1, was developed to avoid Hydro-owned lands associated with the Detweiler Transformer Station. Route C1 was eventually determined to be the preferred route, based on ESP's conclusion that the proposed route has the least impact on the surrounding environment. Heritage and archaeological resources were reviewed along the proposed route and mitigation recommendations included in the ESP report.

- 4.1.6 The proposed route, shown in Figure 2, skirts the Mannheim Artificial Recharge Area. This area is an underground reservoir, replenished through water pipelines, and with injection and peaking wells designed to deliver water to the municipalities of Kitchener, Waterloo and Cambridge. The Regional Municipality of Waterloo in its planning review of the proposed route considered the effect of the proposed route on the Mannheim Recharge Area.
- 4.1.7 The proposed route has been accepted by the Regional Municipality of Waterloo, the cities of Kitchener and Waterloo, Ontario Hydro and the Ontario Pipeline Coordinating Committee ("the OPCC").
- 4.1.8 The Landowners' Committee disagreed with the findings of the ESP Environmental Assessment. They presented site-specific evidence on five categories in which they believed that the data in the Environmental Assessment were incorrect - drainage, number of woodlots, aggregate resources, active extraction pits and diagonally severed lots. The Environmental Assessment attempts to minimize all of these factors. One of ESP's objectives was the use of previously disturbed lands, including pipeline or power line easements. In the case of Mr. McDonald, the pipeline diagonally crosses his property along the existing power line easement. Technically, this is not a new diagonally severed lot as the power line easement already exists. However, the poles of the existing two-pole line crossing his property have been placed in the fence-lines so that the power line does not affect his agricultural operation. In general, Union testified that the permanent loss of agricultural production in a pipeline easement can be up to 5 to 6 times that in a power line easement.

4.2 LANDOWNER ROUTE ALTERNATIVES

4.2.1 The Landowners' Committee proposed several alternative routes to Union and to ESP during the public participation process, which was conducted after the selection of the preferred route. ESP prepared a report investigating these alternatives for the southern portion of the Kitchener-Waterloo West Line route to the Detweiler Station. No alternatives were proposed by the landowners for the northern portion of the route.

4.2.2 All the landowners' proposals followed the existing pipeline before diverting west to join the preferred route of the proposed pipeline.

4.2.3 ESP analysed the alternatives proposed by the landowners and compared them to the preferred route using the 18 criteria listed in the previous section. Several criteria were deemed by ESP as not relevant to the southern portion of the route and so were discarded:

- environmentally sensitive areas,
- hazard lands,
- wetlands,
- number of spawning/nursery areas, and
- conservation and recreation areas.

4.2.4 The crossing of the Mannheim Artificial Recharge Area was also a factor in the examination of the landowner alternatives.

4.2.5 ESP concluded that none of the alternative routes were environmentally preferable to the proposed route.

4.2.6 The principal reasons cited by ESP for rejecting most of the alternative routes proposed by the landowners were the presence of primary aggregate resources, of an active aggregate extraction pit which is licensed across the

route of the existing Owen Sound Line and of planned urban development areas near the Kitchener Gate station.

4.3 POSITIONS OF THE PARTIES

4.3.1 Both the Landowners' Committee and Board Staff took issue with the location and easement constraints placed on ESP by Union. It was Board Staff's position that the use of road allowance for the location of the pipeline should have been considered. Board Staff pointed out that there were no codes or standards preventing such use and that other pipeline companies operating within the province have located similar size pipelines in road allowance. The Landowners' Committee argued that the "environmental analysis was confounded with construction constraints".

4.3.2 Union replied that the constraints were required in order to provide sufficient space to construct the pipeline and to protect it from third party damage to which it would be exposed if placed on road allowance.

4.3.3 The Landowners' Committee raised a number of concerns regarding the methodology employed in arriving at a preferred route location. They argued that public input into the route selection process should have been conducted earlier, before a preferred route was chosen. In their view, environmental information at a high level of definition should have been gathered in the initial stages of the process. They also submitted that the study area should have included the existing pipeline route to allow this to be examined along with other alternatives at the early stages of the process.

4.3.4 The Landowners' Committee believed that the data in the environmental assessment matrix, which compare the landowners' suggested alternatives and ESP's preferred route, were not accurate. They suggested that new values should have been incorporated into the matrix for the ESP preferred route based on the site-specific evidence presented by the Landowners in

the hearing. The Landowners concluded that paralleling the existing line to the Kitchener Gate Station offered the best solution from an environmental perspective.

- 4.3.5 Union responded that all route alternatives were compared on the basis of consistent information. The preferred route gets more scrutiny during the site-specific analysis. It would therefore not be consistent to analyse the preferred route on the basis of site-specific information, but not the alternative routes. Union rejected the Landowners' Committee's proposal for utilizing the existing pipeline easement on both engineering and environmental grounds.
- 4.3.6 The Landowners' Committee asserted that certain groups in society had greater influence than others when it came to locating the pipeline. They argued that Ontario Hydro and those controlling urban land uses had exercised their power to prevent certain areas from being considered for pipeline location.
- 4.3.7 Board Staff also questioned why, for example, Ontario Hydro was dealt with differently than other landowners. It noted that Union had proceeded with expropriation of Ontario Hydro property in the past. In its view, Hydro's objections to locating the pipeline through the area of the Detweiler Station should have been ignored.
- 4.3.8 Union maintained that engineering constraints made it impossible to construct the proposed pipeline through the Detweiler Station. It submitted that this was consistent with the position taken by the company during the E.B.L.O. 171 proceedings.
- 4.3.9 The Ministry of Natural Resources ("the MNR"), in a letter of concern submitted during the hearing, requested the Board to impose a condition that Union avoid the clearing of woody vegetation from mid-April to the end of July. By restricting the clearing during this specified time period,

avian nesting sites would be protected. Board Staff supported the proposed condition and pointed out that the construction schedule filed by Union called for clearing to start at the beginning of August, which would satisfy the MNR's concern.

- 4.3.10 Union argued that the MNR condition, if imposed by the Board, would seriously jeopardize Union's ability to complete construction in 1991 as scheduled. It argued that Board Staff had misinterpreted Union's construction schedule which envisioned construction commencing earlier than August 1, 1991, if easements could be obtained. Union also stated that the MNR condition is unnecessary since the Company has a policy in place for identifying and protecting nesting sites.

4.4 BOARD FINDINGS

- 4.4.1 The Board finds that the route selected by ESP and adopted by Union is environmentally acceptable. It has concerns, however, on both the constraints imposed on the selection process and on the selection process itself.
- 4.4.2 The two engineering and construction constraints imposed by Union, the use of the 20 metre easement and the avoidance of road allowance, were supplemented during the route selection process by Ontario Hydro's effective veto of the crossing of the Detweiler station area and by the Regional Municipality of Waterloo's demand for relocation of the pipeline in the area of the Municipal landfill. As well, the further comments of government agencies were accommodated during the OPCC review process. ESP also defined an additional constraint, the partial avoidance of planned urban settlement areas, which resulted in portions of the existing pipeline route being removed from the study area prior to the study process. The effect of all of these constraints was to give greater weight to the concerns of specific landowners and a higher priority to certain criteria before the presentation of the proposed pipeline to the

public. While in this case, the Board finds that these constraints have not resulted in an environmentally unacceptable choice, the Board is concerned that such may not be the case in the future. It notes, with approval, the efforts of ESP to modify Union's easement policy in certain locations in order to minimise the environmental impact of the proposed pipeline.

4.4.3 The alternatives proposed by the Landowners' Committee were analysed only after the ESP report had been prepared, the preferred route selected and the environmental report provided to various agencies and groups for their review. Some of these alternative routes were as reasonable and plausible as the alternative routes initially studied by Union's consultant.

4.4.4 By necessity, given the public participation process used by Union and ESP, the landowner alternatives were given incomplete consideration and review.

4.4.5 However, there was also evidence that the Mannheim Artificial Recharge Area presented an obstacle to most of the landowner alternatives. It appears unlikely, in the Board's view, that an acceptable alternative could be found through this area.

4.4.6 In addition, Union presented evidence on construction constraints, such as Ontario Hydro's effective veto of passage through the area of the Detweiler Station and slopes on the possible crossings of Highway 7 and 8, that render the landowner alternatives more difficult from a construction point of view.

4.4.7 In the Board's view, it would have been preferable if some or all of the landowner alternative routes could have been studied in the original ESP Report. Local input at an earlier stage may lead to identification of one or more possible alternatives. The Board recognizes, however, the danger that "Not In My Backyard" may become the objective, rather than the selection of a environmentally preferred route. In the Board's view,

improvements in the route selection process may mitigate its concerns. In particular, the Board believes that the spirit of its "Environmental Guidelines for Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario" suggests that the public participation process should start earlier on in the selection process, so that the concerns of landowners are given equal weight to those of other organizations. The Board questions the different treatment accorded to Ontario Hydro compared to other landowners, which is evidenced in the costly detour around the Detweiler Transformer Station.

- 4.4.8 The Board has some difficulty with one aspect of the environmental assessment matrix. One of ESP's selection criteria was the number of diagonally severed lots. ESP's evidence was that there are no diagonally severed lots on the preferred route. The Board disagrees with reference to the property of Mr. McDonald. Although there is a Hydro easement on this property, the placement of the Hydro poles within the fence lines eliminates the impact of the existing easement on agricultural operations. Therefore, in the ESP environmental assessment matrix, the number of diagonally severed lots should be shown as one. However, this does not change the acceptability of the preferred route or make an alternative route superior.
- 4.4.9 The Board directs Union in future to avoid the imposition of construction and cost-related constraints on environmental studies of pipeline routes, to hold public meetings at the outset of environmental route selection studies rather than only after the preferred route is chosen and to give equal weight in the environmental route selection process to the legitimate concerns of private landowners as is given to those of landowners such as municipalities and Ontario Hydro.
- 4.4.10 The Board will not apply the avian nesting condition as proposed by MNR, but will add a condition that Union must review its current policies and procedures with MNR as they apply to this proposed condition. Union

is to seek a resolution of MNR's concern and report back to the Board's designated representative.

4.4.11 The Board reiterates that it finds that Union's proposed route is environmentally acceptable and that no other routes were shown to be environmentally superior.

4.4.12 The Board finds that Union's proposed construction practices, combined with the recommended mitigation measures as presented in evidence, can be expected to ensure minimum environmental impact during construction of the proposed pipeline.

5. CAPITAL COST, ECONOMIC ANALYSIS AND OTHER MATTERS

5.1 CAPITAL COST

5.1.1 Union provided information on the net present value (NPV) of several looping alternatives which were considered prior to selection of the preferred alternative. These included:

- A) looping from the Kitchener Gate Station
to St. Jacobs with NPS 16 pipe NPV = \$18,257,000
- B) looping the existing NPS 12 line from the Strausburg Station to the
St. Jacobs compressor NPV = \$18,247,000

These alternatives require retention of the St. Jacobs compressor station and in Union's view do not provide the required level of security of supply due to retaining the single feed to the Kitchener Gate Station.

5.1.2 Other alternatives considered and costed out were:

- C) Looping east of Kitchener-Waterloo with
NPS 20 pipe plus laterals NPV = \$32,667,000
- D) Looping east of Kitchener-Waterloo with
NPS 16 pipe plus laterals NPV = \$29,423,000

- 5.1.3 Union stated that additional alternatives were also considered such as looping the existing system through Kitchener/Waterloo and reinforcement of the portion north of the St. Jacobs Compressor Station consisting of 83 km of NPS 12, 54 km of NPS 10 and 30 km of NPS 16 pipeline over 20 years plus additional lateral work. These were rejected on the basis of excessive cost.
- 5.1.4 Union provided a cost breakdown of the estimated \$25,449,000 cost of the preferred alternative. This is reproduced in Table 5.1. Further details of the costs which Union categorized as environmentally-related are shown in Table 5.2.

Table 5.1: Kitchener-Waterloo West Line Estimated Costs

Material:		
406.4 mm O.D. x 7.1 mm W.T. Pipe C&W 33,437 m @ 97.86/m	\$ 3,272,000	
Valves, Fittings, Casing, Swamp Weights, Miscellaneous Material	711,000	
Stores Overhead - 17% Valves, Fittings & misc. Material	56,000	
Total Material		\$ 4,039,000
Construction and Labour:		
To lay 33,437 m of 406.4 mm O.D. Pipe	\$ 5,472,000	
Boring, Weights, Testing, Valving, Casing, Misc. Contract Labour	3,720,000	
Company Labour, X-Ray, Survey, Legal Mill Inspection and Consultants	2,503,000	
Easements and Damages	4,385,000	
Total Construction and Labour		\$16,079,000
Sub Total		\$20,118,000
Contingencies @ 5%		1,006,000
Interest During Construction @ 3.7%		754,000
General Overheads @ 7.015%		1,319,000
TOTAL COST OF PIPELINE - FISCAL 1991 CONSTRUCTION		\$23,197,000
Other Costs:		
Measurement		607,000
Regulation		1,413,000
Tie in		232,000
TOTAL PROJECT COSTS		\$25,449,000

**Table 5.2: Kitchener-Waterloo West Line Estimated Environmental Costs
(included in Table 5.1)**

Preconstruction:		
Environmental Study	\$ 180,000	
Total Preconstruction		\$ 180,000
Construction:		
Topsoil Stripping	\$ 118,000	
Wet Weather Shutdown	274,000	
Dust Control	49,000	
Excess Sub-soil Removal	46,000	
Stream Crossings	237,000	
Monitoring and Analysis including: Water Well Monitoring Compaction Analysis Archaeological Assessment	60,000	
Total Construction		\$ 438,000
Restoration:		
Topsoil Replacement	\$ 118,000	
Stone Picking and Trench Redress (the Year Following Construction)	160,000	
Erosion Control	160,000	
Total Restoration		\$ 438,000
TOTAL ESTIMATED ENVIRONMENTAL COSTS		\$1,402,000

5.1.5

Union stated that the proposed Kitchener-Waterloo West Line is part of an optimum design to accommodate 20-year projected growth, while providing an acceptable level of security of supply. To meet the forecast growth on the Owen Sound system beyond 1998, looping between St. Jacobs and the Teviotdale transmission stations and looping of the East

Owen Sound Line will be required. These reinforcements are estimated to cost on the order of \$24 million in 1992 dollars and will be needed in the period 1999 to 2010.

- 5.1.6 In response to a request by Board Staff, Union estimated the cost to loop the existing NPS 12 line from the Dawn-Trafalgar system to the Kitchener Gate Station at \$7,974,000 for a 12 inch line and \$10,170,000 for a 16 inch line. Union noted that such a looping would not do anything for security of supply other than for the City of Kitchener itself.

5.2 ECONOMIC ANALYSIS

- 5.2.1 Union provided an economic analysis over the period 1991 to 2021 using a methodology based in the Board's guidelines in E.B.O. 134 for Stage 1 economic feasibility analysis. This showed that the project would provide \$9.8 million (net present value) in incremental gas sales revenue against the project's total capital outlay of \$23.5 million. This corresponds to a profitability index of 0.42. The stage one analysis therefore shows that, if considered from a pure system expansion perspective, the project is uneconomic and requires almost \$3 million per year (current dollars) in additional revenue. Union noted, however, that it was basing its application on security of supply considerations, not on economic feasibility.

- 5.2.2 Union also conducted an analysis corresponding to the Board's E.B.O. 134 guidelines for Stage 2 analysis. This showed that even with a 15 percent discount rate, fuel savings of \$70 million (NPV) would accrue to new customers served by the proposed pipeline. These savings combined with \$9 million in related tax benefits resulted in a Benefit/Cost ratio of 3.4. Union concluded that the project is in the public interest, based on the Stage 1 and Stage 2 analyses of quantifiable benefits and costs.

- 5.2.3 Union also noted other public interest considerations including environmental, security of supply and social benefits, not captured in the

Stage 1 and Stage 2 analyses, which reinforced its conclusion that the proposed project was in the public interest. Union quantified the economic loss associated with an interruption of industrial customers on the Owen Sound line at \$35-40 million.

5.3 OTHER MATTERS

Option for Easement Agreement

- 5.3.1 Under section 48(9) of the Act, the Board shall not grant an applicant leave to construct the pipeline until the Board is satisfied that the applicant has offered or will offer to the landowners an agreement in a form approved by the Board.
- 5.3.2 Union has requested approval of a form entitled "Option for Easement Agreement" ("the Option Agreement"), which it filed in this proceeding.
- 5.3.3 In recent applications for leave to construct, Union offered landowners an easement agreement in a form approved previously by the Board. This was in the form of a Purchase of Easement Agreement, rather than the Option Agreement put forward by Union in this proceeding.
- 5.3.4 The Option Agreement was described as a contractual agreement between the landowner and Union. If the Option Agreement is signed by the landowner within the limited period of time offered, the landowner would receive a non-refundable deposit of the easement purchase price for granting Union an irrevocable option to purchase the easement.
- 5.3.5 Union's witness testified in the hearing that, under the terms of the Option Agreement, Union may determine the date on which to exercise the option once it had received leave to construct, and upon giving notice, would be able to commence construction immediately. Within 30 days after the

"Exercise Date" signed in the option, the landowner would be required to execute and deliver to Union the formal signed easement agreement.

Natural Resource Gas Limited Condition of Approval

- 5.3.6 NRG requested a condition that "any and all capital and operating costs associated with this pipeline be excluded in the calculations involving cost allocation and rate design in so far as NRG is concerned".

5.4 POSITIONS OF THE PARTIES

- 5.4.1 Board Staff argued that the evidence on the costs of alternatives as presented by Union could not be relied upon by the Board. It submitted that there were several different figures referred to during the course of the hearing as to the actual cost of alternatives and future looping on the system, concluding that Union's costing analysis of alternatives was not sufficient.
- 5.4.2 NRG indicated that, while it was not concerned with the actual design and merits of the application, it felt that the expansion was not cost-effective. NRG therefore requested that the condition described above be attached to the Board's order if the Board were to find in favour of the proposed expansion.
- 5.4.3 Union submitted that its costing analysis was consistent throughout the proceedings. It argued that unit costs were used as the bases for comparison for all alternatives considered and that this was a logical approach to assessing least cost alternatives. With regard to NRG's

condition, Union stated that this condition was not an issue for the Board to consider in this proceeding and suggested that NRG could raise this concern at Union's E.B.R.O. 470 rate proceeding.

- 5.4.4 Neither Board Staff nor the Landowners' Committee indicated a position on Union's proposed Option Agreement.

5.5 BOARD FINDINGS

- 5.5.1 The Board finds that the capital costs of the Kitchener-Waterloo West Line are reasonable and that the construction of this pipeline is required for security of supply.

- 5.5.2 With respect to the Option Agreement, the Board can appreciate Union's desire to commence construction as soon as possible on issuance of the Board's order. The Option Agreement would allow construction more quickly than would the existing easement agreement already approved by the Board in prior proceedings.

- 5.5.3 However, the Board finds that Union failed to provide sufficient evidence to allow for proper scrutiny of the Option Agreement. The pre-filed evidence lacked clarity on matters such as the "Exercise Date" in relation to the date of a Board order. Nor was it clear as to which of the two agreements, the Option Agreement or the formal Easement Agreement would determine the commencement of construction of the pipeline.

- 5.5.4 Further, Union did not file a copy of the form of the Easement Agreement to be attached as Schedule "C" to the Option Agreement. The Board has therefore no direct evidence as to whether the Easement Agreement to be attached to the Option Agreement and referred to as Schedule "C" of that agreement is indeed the form of the Easement Agreement already approved by the Board or whether it is a different form.

5.5.5 The Board is also concerned in regard to the non-refundable deposit. There was no discussion in the hearing as to the disposition, if any, between ratepayers and shareholders of the non-refundable deposit in the event that an application is denied.

5.5.6 Therefore, for the purposes of this Application, the Board denies Union's request for approval of the form of the Option Agreement and attachments thereto. The Board directs Union to offer an easement agreement to the landowners in the form identical to that approved by the Board in E.B.L.O. 234 and hereby approves the use of that form as meeting the requirements of section 48(9) of the Act.

5.5.7 The Board will not include the condition requested by NRG as it is a cost allocation and rate design issue and is, therefore, more appropriately considered in a future rate case.

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6. COSTS AND COMPLETION OF THE HEARING

6.1 COSTS

6.1.1 Section 28 of the Act empowers the Board to award costs. The Board's Report in E.B.O. 116 sets out the considerations by which the Board will be guided as a general rule in the exercise of its discretion to award costs to intervenors.

6.1.2 The Board in this proceeding has considered factors such as whether intervenors conducted their intervention responsibly, whether the information provided to the Board was helpful and provided information on the issues related to the Application.

The Waterloo-Oxford Landowners' Committee

6.1.3 The Waterloo-Oxford Landowners' Committee requested 100 percent of the costs incurred by Mr. Cressman and appropriate honoraria for the other members of the Landowners' Committee. Mr. Cressman pointed out that the Landowners' Committee had proceeded without legal counsel and that considerable sacrifice had been involved both by himself and the other members of the Waterloo-Oxford Landowners' Committee.

6.1.4 No other party requested an award of costs.

6.2 BOARD FINDINGS

- 6.2.1 The Board finds that the Waterloo-Oxford Landowners' Committee intervened responsibly and provided valuable insight and perspective into local conditions which reflected their long, intimate personal knowledge of the pipeline route study area. The Board accepts that considerable sacrifices were made particularly by Mr. Cressman as the spokesperson for the Landowners' Committee.
- 6.2.2 The Board accordingly awards Mr. Cressman 100 percent of his reasonably incurred costs, after assessment by the Board's Assessment Officer, including any out of pocket costs associated with maintenance of his farming operation while participating in the preparation for, and appearing at, the hearing.
- 6.2.3 Mr. R. Dedman who assisted Mr. Cressman throughout the proceeding is also awarded 100 percent of his reasonably incurred costs as assessed by the Board's Assessment Officer. Mr. Soehner, who appeared as a special witness for the Landowners' Committee is also awarded 100 percent of his reasonably incurred costs.
- 6.2.4 The other active members of the Landowners' Committee who supported Mr. Cressman and gave evidence, namely Mrs. Cleave, Mrs. Kropf, and Messrs Bayus, Fried, Ballantyne and Sararus, are each awarded an honorarium of \$1000 in lieu of costs.
- 6.2.5 Special witnesses for the Landowners' Committee, namely Messrs McDonald and Colber, are each awarded an honorarium of \$500 in lieu of costs.
- 6.2.6 The Board directs Messrs Cressman, Dedman and Soehner to submit a claim for their reasonably incurred costs of participating in the proceeding

to the Board's Assessment Officer within ten (10) working days of the issuance of the Board's Decision herein.

6.2.7 Union Gas is hereby directed to forthwith pay the honoraria as directed by the Board above.

6.2.8 Union Gas is also directed to pay the costs of Messrs Cressman, Dedman and Soehner once these have been assessed and to pay the Board's costs in the proceeding, upon presentation of the Board's Cost Order and invoice.

6.3 COMPLETION OF THE PROCEEDINGS

6.3.1 The Board finds that the Applicant has satisfactorily demonstrated the security of supply need for the proposed Kitchener-Waterloo West Line. The Board is of the opinion that construction of the facilities is in the public interest.

6.3.2 Subject to the Company's compliance with the conditions set forth in Appendix "A" of this Decision with Reasons, the Board grants Union leave to construct the Kitchener-Waterloo West Line.

DATED AT Toronto this 15th day of February 1991.



R.M.R. Higgin
Presiding Member



V.W. Bielski, Q.C.
Member



J.C. Allan
Member

APPENDIX "A"

CONDITIONS OF APPROVAL

- (a) Subject to Condition (b), Union shall comply with all undertakings made by its counsel and witnesses, and shall construct the pipeline and restore the land according to the evidence of its witnesses at the hearing.
- (b) Union shall advise the Board's designated representative of any proposed change in construction or restoration procedures and, except in an emergency, Union shall not make any such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board or its designated representative shall be informed forthwith after the fact.
- (c) Union shall review its policies and procedures with respect to avian nesting conditions with the Ministry of Natural Resources and discuss differences between Union's policies and procedures and the proposed MNR condition that clearing of woody areas be restricted to the period outside of the mid-April to end-July period. Union shall seek a resolution of MNR's concerns and report back to the Board's designated representative on the outcome of the discussions before commencing construction or clearing of the pipeline route.
- (d) Union shall furnish the Board's designated representative with every reasonable facility for ascertaining whether the work has been and is being performed according to the Board's Order.
- (e) Union shall give the Board and the Chairman of the Ontario Pipeline Coordinating Committee 10 days written notice of the commencement of construction of the pipeline.
- (f) Union shall designate one of its employees as project engineer who will be responsible for the fulfilment of conditions and undertakings on the construction site. Union shall provide the

name of the project engineer to the Board. Union shall prepare a list of the undertakings given by its witnesses during the hearing and will provide it to the Board for verification and to the project engineer for compliance during construction.

- (g) Union shall file with the Board Secretary notice of the date on which the installed pipeline is tested within one month after the test date.
- (h) Both during and after the construction, Union shall monitor the effects upon the land and the environment, and shall file fifteen copies of both an interim and a final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date and the final monitoring report within 15 months of the in-service date.
- (i) The interim report shall describe the implementation of Conditions (a) and (b), if any, and shall include a description of the effects noted during construction and the actions taken or to be taken to prevent or mitigate the long-term effects of the construction upon the environment. This report shall describe any outstanding concerns of landowners.
- (j) The final monitoring report shall describe the condition of the rehabilitated right-of-way and actions taken subsequent to the interim report. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Further, the final report shall include a breakdown of external costs incurred to date for the authorized project with items of cost associated with particular environmental measures delineated and identified as pre-construction related, construction related and restoration related. Any deficiency in compliance with undertakings shall be explained.
- (k) Union shall file "as-built" drawings of the pipeline; such drawings shall indicate any changes in route alignment.
- (l) Within 12 months of the in-service date, Union shall file with the Board a written Post Construction Financial Report. The Report shall indicate the actual capital costs of the project and shall

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explain all significant variances from the estimates adduced in the hearing.

- (m) The Board's designated representative for the purposes of this project is the Project Manager, Environmental.
- (n) The Leave to Construct granted herein terminates December 31, 1991.

